## Amendments to the claims:

1-11.  (Cancelled)

12.  (New)  A system for accessing and transmitting data frames of different types in a digital transmission network, comprising:

at least a user-network interface (UNI) coupled with a user-network;

at least a network-network interface (NNI) coupled with the digital transmission network to transfer data;

at least one mapping/demapping device;

a virtual interface device coupled with said at least one UNI and with said at least one NNI via said at least mapping/demapping device; and

a control device coupled with said virtual interface device to control other corresponding devices to perform different types of data frame processing flows.

13.  (New)  A system according to claim 12, wherein said other corresponding devices comprise: at least a virtual private device and/or at least a virtual bridge device and/or at least a RPR device coupled with said control device.

14.  (New)  A system according to claim 12, wherein said control device comprises:

a data processing and dispatching device, comprising:

at least an inter-device interface for inputting and outputting data frames;

a data processing and dispatching unit coupled with said inter-device interface to input and output data frames;

a processing flow database coupled with said data processing and dispatching unit, said processing flow database stores a plurality of processing flows; and

a control interface unit coupled with said processing flow database and said data processing and dispatching unit so as to control a virtual private processing unit and a rule database to process the data frames.

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15. (New) A system according to claim 14, wherein said other corresponding devices comprise at least a virtual private device and/or at least a virtual bridge device and/or at least a RPR device coupled with said data processing and dispatching device.

16. (New) A system according to claim 14, wherein each processing flow in said processing flow database comprises data frame type number and inter-device interface number.

17. (New) A system according to claim 14 or 15, wherein each inter-device interface of said data processing and dispatching device corresponds to a unique external device.

18. (New) A system according to claim 14, wherein said processing flows and data frame types is 1:1, and wherein the data processing and dispatching unit finds corresponding processing flows according to data frame types and informs said corresponding devices to process the data frames according to the processing flows.

19. (New) A system according to claim 18, wherein the processing flows in said processing and dispatching flow database are established, modified, or deleted dynamically, and wherein data of the processing flows in said processing and dispatching flow database are added, modified, or deleted dynamically during operation.

20. (New) A method of receiving and transmitting data frames of different types in a digital transmission network having a data processing and dispatching device, said data processing and dispatching device comprises at least an inter-device interface, a processing flow database, and a control interface unit, said data processing and dispatching device processes the data frames by the steps of:

extracting type number information from received data frames;

searching for a rule in said processing flow database corresponding with the extracted type number;

determining the retrieval result, discarding the data frames if it is blank and ending the process;

if the retrieval result is not blank,

then extracting an inter-device interface number from said retrieval result; and

outputting the data frames via the inter-device interface with the inter-device interface number.

21. A method of accessing and transmitting data frames of different types in the system accessing and transmitting different data frames in a digital transmission network, said method processes the data frames, which enter the system via a UNI, via the following steps:

performing matching operation for the data frames according to classifying rules;

modifying the data frames according to the predefined classifying rules by inserting data type number in the data frames;

transferring the modified data frames to the data processing and dispatching device;

searching for corresponding processing unit according to the data type number in the data frames;

transferring the data frames to said found processing unit;

determining whether said found processing unit is a virtual interface device;

if said found processing unit is not a virtual interface device,

then processing said data frames by said found processing unit;

modifying the data type number of said data frames;

transferring said modified data frames to said data processing and dispatching device;

looping back to the step of searching for the corresponding processing unit according to the data type number in said data frames, and searching for the corresponding processing unit again;

if said found processing unit is a virtual interface device,

then using said virtual interface device to find corresponding device interface according to the data type number in the data frames;

using said virtual interface device to modify the data frames by deleting the data type number from the data frames; and

using said virtual interface device to transfer the modified data frames to corresponding device interface (UNI or NNI) in order to output the modified data frames via said interface.

22.    A method according to claim 21, wherein the step of transferring the modified data frames to corresponding device interface by said virtual interface device further comprises mapping said data frames if said data frames are transferred to an network-network.

23.    A method according to claim 21, wherein the step of processing said data frames entering the system via a NNI further comprises the step of demapping said data frames.